

12. *Neoctantes niger* (Pelz.), ex fl. Madeira.
13. *Dysithamnus schistaceus*, Lafr. et d'Orb.\*

## II. FORMICIVORINÆ.

14. *Myrmotherula fulviventris*, Lawr., ex Panama et rep. Æquat.
15. *M. hæmatonota*, Scl., ex Amazon. sup.
16. *M. cinereiventris*, Scl., ex Cayenna et Amazonia.
17. *M. unicolor*, Ménétr., ex Nov. Granada int.
18. *Formicivora strigilata*, Max., ex Brasil.
19. *Cercomacra cinerascens*, Sclater†, ex Peruv. orient.
20. *Percnostola fortis*, Scl. et Salv., ex Peruv. orient.

## III. FORMICARIINÆ.

21. *Heterocnemis simplex*, Sclater, ex Surinam.
22. *Myrmeciza hemimelæna*, Scl., ex Amaz. sup.
23. *M. immaculata*, Scl. et Salv., ex Panama.
24. *Hypocnemis flavescens*, Scl., ex Rio Negro.
25. *H. hypoxantha*, Scl., ex Amaz. sup.
26. *H. melanura*, Scl. et Salv., ex Peruv. or.
27. *H. hemileuca*, Scl. et Salv., ex Peruv. or.
28. *Pithys bicolor*, Lawr., ex Panama.
29. *Phlogopsis macleannani*, Lawr., ex Panama.
30. *Formicarius hoffmanni*, Cab., ex Costa Rica.
31. *Pittosoma michleri*, Cassin, ex Panama.
32. *Grallaria hypoleuca*, Scl., ex Nov. Granad. int.
33. *G. perspicillata*, Lawr., ex Panama.
34. *Grallaricula costaricensis*, Lawr., ex Costa Rica.
35. *G. nana* (Lafr.), ex Nov. Granad. int.
36. *G. loricata*, Scl., ex Venezuela.
37. *Conopophaga gutturalis*, Scl., ex Nov. Granad. int.

### 3. Notes on the *Ceratelladæ*, a family of Keratose Sponges.

By DR. JOHN EDWARD GRAY, F.R.S., V.P.Z.S., &c.

There have been in the British-Museum collection for several years two plant-like sea-animals that I do not think have been described, the delay having been partly caused by the difficulty that existed in determining to what group of animals, if they were animals, they ought to be referred. They were temporarily placed in the collection with the Gorgonoid Corals; but a very cursory examination showed that they did not belong to that group; and though the surface of the

\* The species called by this name in my American Cat. (no. 1087) has been since named *D. ardesiacus*, P. Z. S. 1867, p. 756.

† The bird thus termed in my Catalogue is *C. napensis*, mihi, *suprà*, p. 572.

smaller branches and the cell-like projections on their surface were covered with spines, they could scarcely belong to the "*Alcyoniens armés*" of M. Milne-Edwards, and they at once differed from all the known forms of that group of animals by the skeleton being formed of horn.

One naturalist to whom I showed them declared that they must be plants belonging to the Algæ. But this cannot be the case; they have none of the characters, except the mere external form of Algæ; and their external form is as like to that of some corals as to any genus of Algæ that I am acquainted with.

In general appearance they combine with their plant-like form some characters of the spicular alcyonoid polypes, the texture of the very porous coral called *Porites*, and the horny consistence of the coarser horny sponges.

After very mature consideration, I am inclined to regard them, until their internal organization and growth is known, and the animal that forms them has been observed and described, as belonging to that very polymorphous group of animals which has been called Sponges. At the same time, I know no group of sponges with which they can be compared.

If they are sponges, they must be arranged with the keratose sponges; but, unlike all the known sponges of that group, they have a series of conical protuberances on the sides of the branchlets, which are developed as the branchlets grow in length, just as the cells of Alcyonoids and stony Madreporæ are developed by the budding of new cells from the bases of the last formed ones. The branches and these cells are all formed by the projecting terminations of the horny fibres.

The stem and older branches are formed of hard, horny, translucent fibres, of a nearly uniform cylindrical form, which are very closely united together into a horny network, with very small circular openings in all directions. This network is very like that found in the older parts of the genus *Porites* among the stony Madreporæ; but in that genus the network is hard and stony, in this it is hard, horny, and translucent. This hard horny network is very little softened by being soaked in water even for many hours.

The surface of the stem is either smooth and covered with a very large number of very minute, close, cylindrical canals, or with transverse ridges of a similar structure to the stem.

The upper branches and branchlets are chiefly composed of and covered with agglutinated, closely packed, projecting terminations of the horny fibres; and on the sides of the branches are placed, in a more or less regular manner, a number of small, short, conical or subcylindrical projections, formed of similar spiculum-like fibres, some of which project beyond the tips of the projections. These projections are placed on the side of the branchlet, which also terminates with a similar tuft of spines, the branchlet increasing in length by the development of new tufts or cells from the base of the old one.

The texture of the stem and branches would lead one to suppose that the entire coral or sponge is covered with sarcode or flesh in the living state, as in *Porites* and most sponges. True there is not the

slightest indication of such a covering to be observed in any of the specimens I have examined ; but that is also the case in the *Porites* and sponges that are generally found in collections.

The younger parts of these plant-like animals are formed of agglutinated, free, horny, projecting fibres, and the older parts of keratose network ; so that it is probable that, as part of the animal becomes old, or only required for the support of the young or more lately developed portion, the projecting portions become gradually transformed into a horny network.

I have not been able to discover, in the very cursory microscopic examination of these specimens which the state of my eyes will allow me to make, any appearance of aquiferous canals in the stem or branches, such as one might expect to exist if they are sponges, or if the prominences on the branches are oscules ; nor have I been able to observe any indications of any lamellar star-like cavities either in the prominences or cells on the branches, or in the substance of the stems or branches, which ought to be there if they are madreporal corals allied to *Porites*, even supposing that a horny coral does exist ; and a horny madreporal coral would be a very aberrant form. A sponge has been described under the name of *Darwinella* which is said to be made up of horny spicules ; but I have not seen this sponge, and do not know the remainder of its structure.

I have requested Mr. M. E. Cooke to undertake to examine the microscopic structure of these specimens, which the state of my eyes will not allow me to attempt. He states that he has not been able to discover any siliceous spicules.

The absence of any lacunæ in the structure of the stem or branches, or communication with the cell for the circulation of the water, which ought, according to the idea of its being a sponge, to be emitted by the cell-like oscules (and the regular development of the cell is much more like the budding of a fully developed polype than the growth of a Protozoon or sponge), leads one to doubt its proper arrangement with them. At the same time, the want of the cylindrical cells for the bodies of the actinoid polypes is equally repugnant to the idea of its being a horny madreporoid coral.

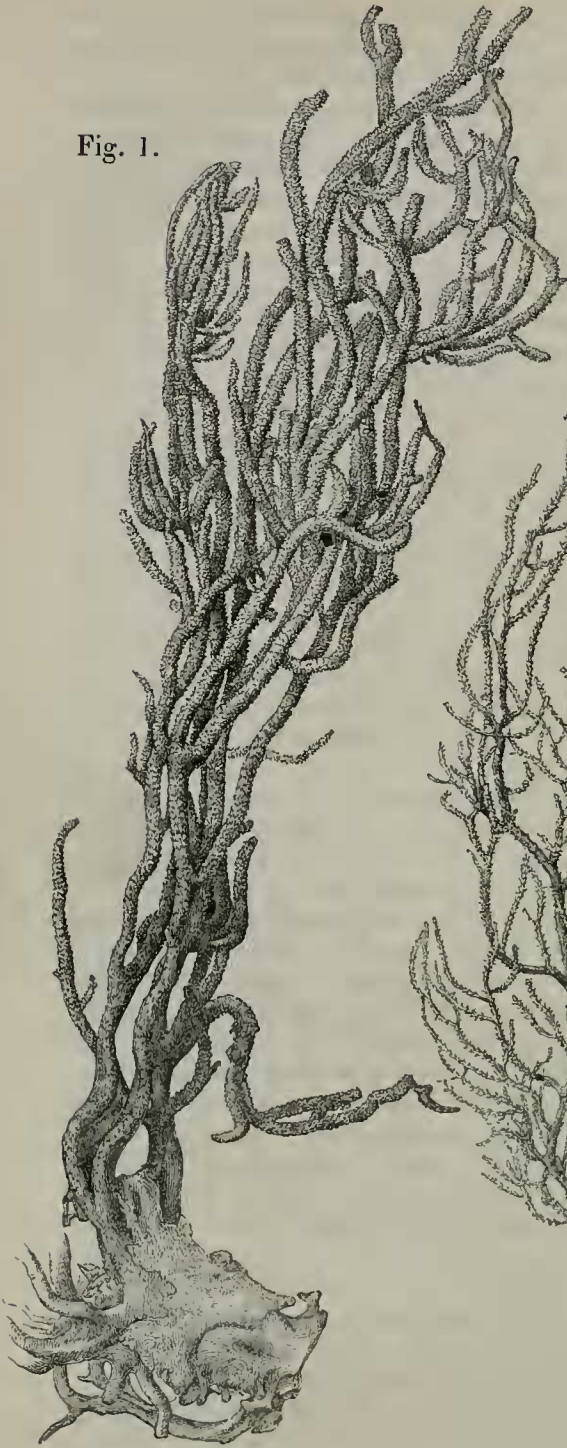
There can be no doubt that though the two specimens of these animals which I have examined are sufficiently different from each other in structure and growth to be regarded as belonging to two genera, yet they are so allied as to form a single family, which I propose to call CERATELLADÆ. The family may be characterized by the details which I have already given of their structure.

#### CERATELLA.

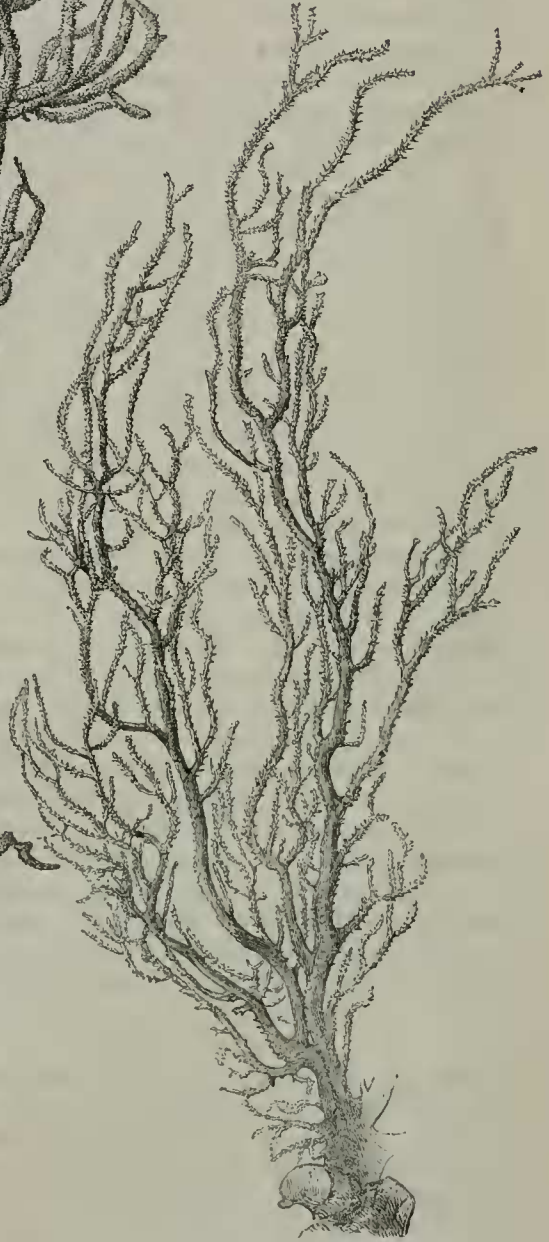
Sponge or coral irregularly dichotomously branched, more or less expanded on a plane from a single base ; of a dark brown colour, of a uniform, hard, horny substance ; stem hard, dark brown, solid ; base dilated, rather compressed, of a uniform rigid somewhat spongy texture, with a velvety surface, which is formed of an abundance of very minute, cylindrical, tortuous grooves. The branches and branchlets tapering, formed of a very large quantity of nearly parallel,

Fig. 1.

Fig. 2.



*Dehitella atrorubens.*



*Ceratella fuscus.*



